



SOUTHERN CALIFORNIA ASSOCIATION
OF
MARINE INVERTEBRATE TAXONOMISTS

February 1984

Vol. 2, No.11

Next Meeting: March 5, 1984

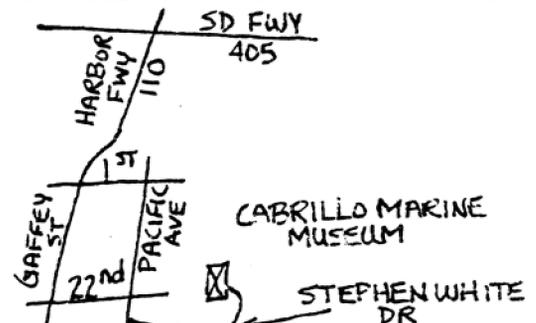
Place: Cabrillo Marine Museum
3720 Stephen White Drive
San Pedro, Ca. 90731

Specimen Exchange Group: Open discussion on provisional species,
no exchange of specimens

Topic Taxonomic Group: Magelonidae, Trochaetidae, Poecilo-
chaetidae, Heterospionidae

MINUTES FROM FEBRUARY 13, 1984

New Meeting Place: The next meeting will be at Cabrillo Marine Museum. Here's how to get there: San Diego Freeway (405) to southbound Harbor Freeway (110), exit south onto Gaffey Street, turn left onto any numbered street, turn right onto Pacific Avenue, turn left onto Stephen White Drive, follow driveway to the Museum.



Corporate Funding: All active members need to call John Shisko (213-772-3394 x269) and give them their estimates of labor costs. John needs this for cost estimates in his funding requests. Please call!

Voucher Corrections: Amphiodia urtica: Jack Word pointed out that A. urtica and A. digitata are probably the same species. Since Clark, 1911 lists the two species as separate subgenera and until a complete life history study of the species can be completed, the two species must be considered as separate species.

Ophiuroconis bispinosa: Again Jack Word helped out and supplied some missing information. The range for this species is between lower Baja California and Santa Monica Bay at 75-300 feet in silty-sand and sandy-silt.

Quality of Newsletter and Voucher Sheet Format: We are working on improving, refining, and standardizing the format. We've a ways to go, but are working on it.

Helpful Hints: In conjunction with the Topic Taxonomic Group, Dave Montagne distributed some comments on the Genus Laonice and Spiophanes. A copy of each is enclosed in the newsletter.

Tom Parker noted the recommendation of using PCB-free immersion oil as discussed in Light, 1978; Spionidae, page 11. He mentioned that Nikon sells a synthetic, PCB-free oil.

List of February 13, 1984 Topic Specimens:

| | |
|------------------|--|
| AHF 17 | <u>Pygospio californica</u> |
| AHF 18 | <u>Streblospio benedicti</u> |
| CMM 2 | <u>Rhynchospio arenicola</u> or <u>R. glutaea</u> (to be determined after examination of type specimens) |
| CMM 3 | <u>Microspio microcera</u> |
| LACO 23 | <u>Spiophanes missionensis</u> |
| LACO 24, OC 35 | <u>Spiophanes berkeleyorum</u> |
| LACO 25 | <u>Laonice appellofi</u> |
| MBC 19 | <u>Scololepis</u> sp. A sensu SCAMIT |
| OC 36 | <u>Spiophanes bombyx</u> |
| PL 37 | <u>Prionospio cirrifera</u> |
| PL 38, SCCRWP 33 | <u>Prionospio</u> sp. A sensu SCAMIT |

Travels with Olga:

Aboard MS Elisabeth Bakke
12 June 1939

Dear Frieda and Chauncey: So glad you could be here yesterday. I was sorry, however, that we could not had had more time together. I hope my friends did not bore you. They have been very kind to me during the past year, and I hope they enjoyed coming to the boat.

The boat is a pleasant place to be. We are doing between 16-17 knots an hour, the sea is rather calm, with only slight rolling, and the color is beautiful blue with white caps. Flying fishes are rather abundant. Today the crew erected our swimming pool on the foc'sle deck, and we may soon be splashing in it. The cabins are very comfortable.

Meals are excellent, a semi-smorgasbord, with all sorts of tasty dishes, and plenty of everything. We have tea at 3, and dinner at 6:30, followed by fruit before retiring; breakfast at 8:30, ice cream at 11, luncheon at 12:30. I expect we will all be gaining before long.

Passengers number 9,- Mr. & Mrs. Buckley from Hollywood, Mr. & Mrs. Vare from L.A. (the former originally from England), 2 English women and 2 other women I have not learned to identify.

Today we have seen one boat near enough to detect the smoke, and another far to the east. Nothing else has been in sight. We are too far from land to see even the higher peaks of lower California.



My bath this morning was unusual in at least one respect. I had turned on the hot and cold faucets as usual. The resulting temperature was satisfactory, but I was unable to get a lather. When I was quite through, I found I had used sea water. There are also taps on the shower with fresh water but I had not used them. It was not surprising, therefore, that I could get no lather.

Our freight consists-- etc., etc. The water supply was taken on at Portland, Ore., the dining room flowers at San Francisco. Oil for motors was replenished at L.A. With these supplies we go directly across the Atlantic.

I wish you would use your influence in encouraging the shipping of the large stone (?meteorite) in our garden, that Bryant wants.-----

Mr. Petersen has arranged to have my letters sent off at Cristobal, even though we do not stop,- also to meet a friend of his who is in the government service there.

He also has suggested that I establish mailing points as follows; (you can contact me at any of these places) Captain of the Port

Liverpool, Glasgow, Manchester

After that, of course, I go on to London. If you do send any of these places, you will have to airmail across the U.S.

Sat., June 11- Day after tomorrow we are due in Panama. It is something to look forward to. Our journey thus far has been delightful, we have had much time to relax. There have been little squalls off and on, with some showers, but nothing of any proportion. I find it very interesting to be able to look so far distant,- it is thus possible to see numerous showers in various places, and other places of calm.

Last night the sea gleamed with luminescent animals. They resembled stars of varying intensity in a dark sky. I was sorry we could not have captured them -our great speed rendered that impossible.

Sunsets have been miraculous spectacles. The sun has been setting almost directly behind the stem of ship for the past two days, as though we have been directly to the east.

For days our radio has not functioned except to contact Mexican stations. Yesterday, however, a fragmentary message came through of the loss of a French submarine. Once we are in the Atlantic we should be able to hear Europe.

Noon- Another shower has come upon us. It blows with considerable force, but our ship is hardly affected by it.



SOME COMMENTS REGARDING THE POLYCHAETE GENUS LAONICE
FROM SOUTHERN CALIFORNIA

David E. Montagne
Marine Biology Laboratory
Los Angeles County Sanitation Districts

It appears that in Southern California there are at least two species of Laonice; L. cirrata (Sars 1851), incorporating, among others, all previously described west coast species; and L. appellöfi Söderström 1920, previously known from Norwegian waters.

In Foster's 1971 study of the spionids of the Caribbean and the Gulf of Mexico she recognized only L. cirrata, considering as synonyms all other species of Laonice, including L. appellöfi. She cited as justification the variability in the first occurrence of genital pouches and hooded hooks, characters most often used by authors to distinguish the various species. In the course of her study she examined material from the western Atlantic, Caribbean Sea, and the Gulf of Mexico, as well as the holotypes and/or paratypes of L. cirrata, L. foliata, L. sacculata, and L. pugettensis. She did not examine any specimens referred to L. appellöfi.

Pettibone (1956), without explanation, considered L. foliata and L. sacculata to be junior synonyms of L. cirrata. Pettibone did not consider the validity of L. appellöfi.

In 1974, Jan Stull and Jim McCammon (LACSD) made an unpublished study of Southern California Laonice, examining several hundred specimens from our collection, those of other agencies, and from the Allan Hancock collection identified as L. cirrata and L. foliata. Also examined were approximately 100 specimens referred to L. cirrata, L. bahusiensis, L. foliata, and L. pugettensis from the USNM and the British Columbia Provincial Museum provided by Dr. Marian Pettibone and Katherine Hobson. These included material from the type localities. Stull and McCammon determined width at the fifth setiger, length through the tenth setiger, and the first appearance of genital pouches, genital spines, and hooded hooks for each specimen. Analysis of the results revealed no distinct differences among the specimens supplied by the museums nor, with the exceptions discussed below, among the local specimens. The only distinctions apparent in the original descriptions (i.e. the first occurrence of genital pouches, spines, and hooded hooks) were found to be related to the size of the animal. They concluded that L. bahusiensis, L. foliata, and L. pugettensis are junior synonyms of L. cirrata. This was in contrast to seventy specimens encountered in the local material that clearly differed from the L. cirrata "group" in general body shape, prostomial and peristomial shape, and setal arrangement. These specimens closely matched Söderström's 1920 description of L. appellöfi. As in the other Laonice examined, the first appearance of the genital spines and hooded hooks was found to be related to body size (first appearing more posteriorly with increasing size). The first appearance of genital pouches however, was less variable and not related to the

size of the worm.

The following is the working description of Southern California spionids referred to Laonice appellöfi Söderström 1920 by the LACSD and some comments regarding their relationship to L. cirrata (Moore 1924).

Laonice appellöfi Söderström 1920
(fig. 1)

Small to medium sized worms (length of first ten setigers, 2.0 to 4.8 mm), the anterior 10 to 13 setigers dorso-ventrally flattened and broad. Thereafter tapering to a fragile, nearly cylindrical abdomen. Posterior end unknown.

The prostomium is bell-shaped, broadly rounded anteriorly with short, poorly defined, lateral horns. There are two pair of eyes; the minute anterior pair are lateral, mid-way between the anterior of the prostomium and the occipital tentacle; the posterior pair are more dorsally placed immediately anterior to the occipital tentacle and may be minute to large dark crescents. The occipital tentacle, approximately half as long as the prostomium, is inserted at the proximal end of the prostomium. Dorsal organs extend to setiger 10 to 14. Palps are unknown. The peristomium, in dorsal view, forms thick wings extending up the sides of the prostomium, leaving the distal one-third of the prostomium free.

Branchiae begin on setiger 2 and are separate from the notopodial post-setal lobes. Anterior parapodia with well developed, distally acute, lamellate post-setal lobes. Interramal genital pouches are first present from setiger 5 to 10, most commonly setiger 8.

The anterior 10 setigers bear thick, distally bent, uni-limbate, longitudinally striated setae in both the noto- and neuropodia. These setae have a coppery luster and, posterior to the third setiger, are placed in several closely set vertical rows. At their most dense (setiger 5 to 10) these fascicles superficially resemble the palisaded setae of orbinids. Posterior to this region, noto and neuropodia bear similar but more slender setae in single or double fan-like rows. In addition, neuropodia from setiger 11 or 12 bear 1 to 4 inferiorly placed, long decurved spines (genital spines) having a distally granular shaft. Neuropodial hooded hooks occur from setiger 16 to 28 and continue posteriorly. Each has three small teeth surmounting a larger fang.

Specimens from Southern California referred to L. appellöfi closely agree with Söderström's original description, from which they differ mainly in the presence of eyes.

The following is a translation, by April Ford, of Söderström's original description (pages 225-226 of Söderström, A. 1920. Studien über die polychaetenfamilie Spionidae. Dissertation. Uppsala, Almqvist and Wicksells. 228pp.).

Laonice appellöfi n. sp.

Eyespots missing. Occipital tentacle well developed. The dorsal organ extends to the 13th setiger. At least 24 pairs of long, slender branchiae. Neuropodial hooked setae from the 17th setiger on. The 4th-12th setigers have hair-setae ("Haarborsten") in more than 2 rows in the neuropodia as well as the notopodia. Ventral neuropodial hair-setae from the 11th setiger on (in this last statement Söderström is apparently referring to the ventrally placed genital spines though he still uses the term "Haarborsten" D.M.). Well developed genital pouches from the 7th setiger on. The atokous region comprises at least 27 setigers. Width at setiger 7 to 8 is 1.6 mm.

I have only a fragment of a single individual at my disposal, an atokous anterior end of 27 setigers and the above provisional diagnosis is based on that. The significant deviation from the remaining Laonice species regarding the setal arrangement in the anterior segments is such that it would be easy to identify subsequent specimens. The setal arrangement from the examined individual is presented in the following table.

| NOTOPOD | NUMBER OF ROWS OF HAIR-SETAE | NEUROPOD | NUMBER OF ROWS OF HAIR-SETAE |
|---------|------------------------------|----------|------------------------------|
| 1 | 1 | 1 | 3 |
| 2 | 2 | 2 | 3 |
| 3 | 2 | 3 | 3 |
| 4 | 3 | 4 | 4 |
| 5 | 4 | 5 | 4 |
| 6 | 5 | 6 | 5 |
| 7 | 6 | 7 | 6 |
| 8 | 6 | 8 | 6 |
| 9 | 6 | 9 | 6 |
| 10 | 6 | 10 | 6 |
| 11 | 4 | 11 | 4 |
| 12 | 3 | 12 | 3 |
| 13 | 2 | 13 | 2 |

The anterior hair-setae have, in the preparation, a strong golden luster and, especially in the notopodia, are bent hook-like at the tips. After the 12th setiger they gradually become more slender and linear. The anterior end is provided with powerful dorso-ventral musculature; the animal, therefore, has a flattened appearance in the area, which was probably produced during preservation. The anterior end was very wide at the 7th to 8th setiger and became more slender from this segment anteriorly as well as posteriorly. The prostomium appeared smaller than those of the remaining Laonice species because of this wide anterior end. The branchiae were longer and more slender than other examined species of this genus; the branchiae numbered 24 pairs but presumably at least 2-3 pairs, if not more, broke off from the posterior during preservation. The dorsal cirri in this fragment were well developed.

The two anterior-most setigers had no nephridia; all remaining setigers of this fragment had atokous nephridia of the usual type for the genus, although with a smaller number of loops.

Scolecopsis McIntosh (1909, p.176; 1915, p.167) is perhaps identical to Laonice appellöfi. McIntosh maintains, that the branchiae appear on the first setiger; it certainly follows from the description, how-

ever, that this first setiger is, in reality, the second. He writes (1909, p.176), "a kind of flap, vertically elongated, occurs immediately behind the snout, but it does not appear to have either bristle or branchiae." By this flap of Scolecoplepis he probably means the same as the "lamella at the base of the long tapering palpi" of his Scolecoplepis cirrata (p.223 of this work), namely the dorsal cirri of the first setiger. The setae in this segment are, especially in the notopodium, very small and easily overlooked in a cursory examination.

McIntosh states further, that the setae have "the usual arrangement in Scolecoplepis"; this statement, however, is of little importance because not much more is meant than that the setae in a notopodium and a neuropodium are separate. Of greater significance is his reference to "the remarkably dense, strong, and boldly curved dull golden bristles."

McIntosh's Scolecoplepis is also missing eyespots. More statements concerning the appearance of the hooked setae and their form, the number of branchiae, etc. are missing from this author's description as he examined an incomplete specimen comprising only 17 setigers.

Laonice appellöfi is most easily distinguished from the more commonly occurring L. cirrata (fig. 2) by the dorso-ventrally compressed, broad, anterior region; the distinctively dense fascicles of thoracic noto- and neuropodial setae; and the bell-shaped prostomium protruding beyond the end of the lateral peristomial "wings".

Laonice appellöfi has been reported from the Palos Verdes shelf (LACSD surveys) and off Point Loma (City of San Diego surveys) in sandy to silty sediments in 60 to 305 meters depth.

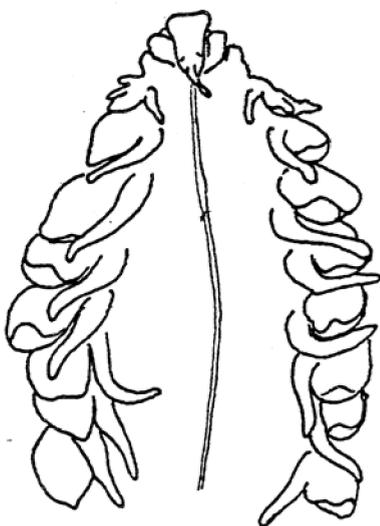


Fig. 1

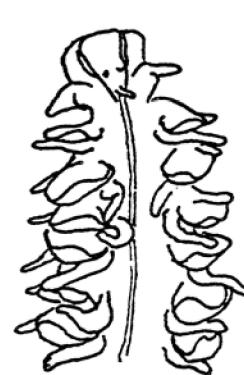


Fig. 2

Figure 1. Laonice appellöfi: anterior end, dorsal view.

Figure 2. Laonice cirrata: anterior end, dorsal view.

LITERATURE CITED

- Foster, N.M. 1971. Spionidae (Polychaeta) of the Gulf of Mexico and the Caribbean Sea. Studies on the Fauna of Curacao and other Caribbean Islands. 36 (129): 1-183
- Pettibone, M.H. 1956. Marine Polychaete Worms from Labrador. U.S. Nat. Mus., Proc. 105 (3361): 531-584
- Soderstrom, A. 1920. Studien uber die Polychaetenfamilie Spionidae. Dissertation. Uppsala, Almquist and Wicksells. 228 pp.

CITED WITHIN SODERSTROM 1920:

- McIntosh, W. 1909. On the Spionidae. Notes from the Gatty Marine Laboratory, St. Andrews, 31. Ann. Mag. Nat Hist. (8) 3: 153-180

A REPORT OF A SPECIES OF SPIOPHANES NEW TO SOUTHERN CALIFORNIA

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In the course of the past 14 years of benthic sampling conducted by the LACSD off Palos Verdes, approximately 15 specimens have been taken of a Spiophanes that appears to be new to this coast. It has also recently been taken off the Orange County coast. Because of its similarity to S. wigleyi Pettibone 1962 it is tentatively referred to that species.

Spiophanes cf. wigleyi Pettibone 1962

DESCRIPTION:

Width of specimens examined up to 3.0 mm at setiger 10, length of first 10 setigers up to 5.0 mm. Length of an incomplete specimen of 54 setigers is 30 mm. Prostomium is truncate anteriorly without lateral horns, its sides parallel for most their length then tapering to a broad apex posteriorly. There are no eyes. There is no occipital tentacle. The distal half of the prostomium bears a large, dorsal pigment spot. This spot persists in specimens that have been in ethanol as long as 14 yrs. The paired nuchal sense organs are each two parallel ciliated ridges originating near the proximal apex of the prostomium. They extend back to the fourth setiger where they double back ending just lateral to their origin (FIG A)

The first four setigers have well developed postsetal lamella, those of the second and third notopodia being the largest and most foliaceous (FIG B). Setigers 5 thru 15 have inflated, glandular notopodial lobes terminating in a short cirriform process (FIG C). The glandular nature of these lobes is not evident in smaller (sexually immature?) worms; the lobes having a similar shape though less inflated and opaque. Posterior to setiger 15 the notopodial lobes are drawn into long slender cirri (FIG D). Neuropodial postsetal lobes are pad-like posterior to setiger 5. Transverse dorsal ridges begin at setiger 15, become prominent by setiger 17 or 18, and continue, undiminished, through the length of all but the smallest specimens (none had posterior ends). On the larger individuals the ridges are very swollen, opaque, and closely set; continuing through at least setiger 50.

Setae are as described for Spiophanes wigleyi by Foster (1971); the neuropodial hooded hooks tridentate. There are no genital pouches.

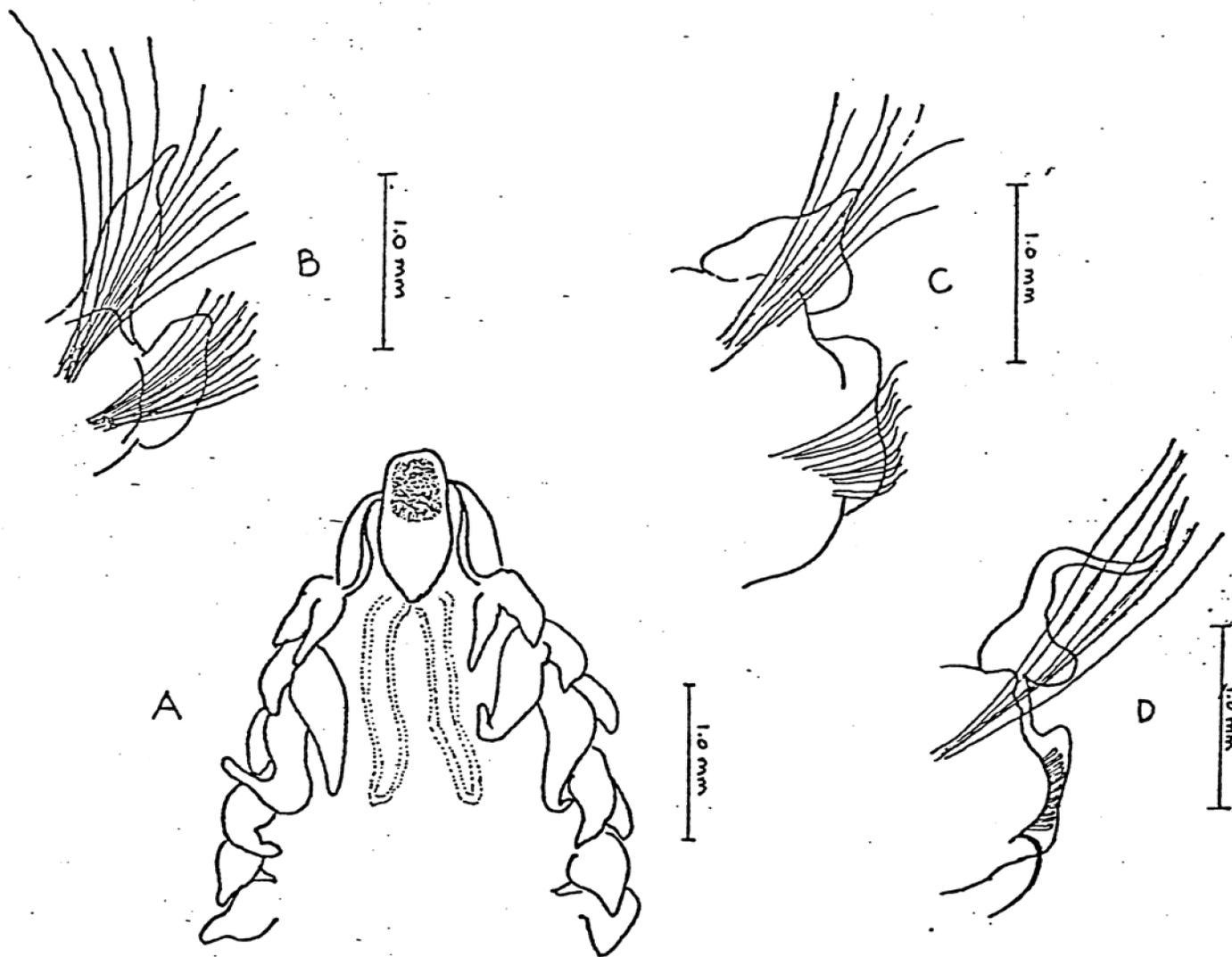
REMARKS:

These specimens appear to match the original and subsequent (Foster 1971, Blake and Kudenov 1978) descriptions of Spiophanes wigleyi with a few exceptions. All the specimens previously referred to S. wigleyi were small; the largest recorded in the literature being 15mm long, 1mm

wide, for 62 segments. Local specimens are up to at least three times this size. The transverse dorsal ridges extend through a greater number of segments without a reduction in prominence (>33 in local specimens, no more than 12 in the literature). Local specimens lack eyes and differ in pigmentation pattern (the type material and Foster's Caribbean specimen have pigment on the proximal tip of the prostomium only; pigmentation is not described for Australian material). It is arguable whether these differences are of sufficient significance to justify separate status for the Southern California population. Examination of material from both the west Atlantic and Australia would be necessary to resolve the question. Because of this uncertainty I suggest that local animals be only tentatively referred to S. wigleyi.

DISTRIBUTION:

Palos Verdes shelf, 60 to 550 M depth in silt to silty clay. Orange County coast (10 Km N. of Dana Pt.), 44 M depth in silty clay.



Spiophanes cf. wigleyi. Fig A, anterior end, dorsal view; Fig B, parapodium 2, ant. view; Fig C, parapodium 10, ant. view; Fig D, posterior parapodium, ant. view.

LITERATURE CITED

- Blake, J.A. and J.D. Kudenov. 1978. The Spionidae (Polychaeta) from southeastern Australia and adjacent areas with a revision of the genera. Mem. Nat. Mus. Vic. 39: 171-280.
- Foster, N.M. 1971. Spionidae (Polychaeta) of the Gulf of Mexico and the Caribbean Sea. Studies on the Fauna of Curacao and other Caribbean Islands. 36 (129): 1-183.
- Pettibone, M.H. 1962. New Species of Polychaete Worms (Spionidae: Spiophanes) from the east and west coast of North America. Biol. Soc. Wash., Proc. 75: 77-88.